



# Declared Wholesale Gas Market – Intervention Report

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**June 2021**

## Notice of threat to system security

A report into the notice of threat to system security for gas day 10 June 2021

# Important notice

## **PURPOSE**

AEMO has prepared this report pursuant to rule 351 of the National Gas Rules, using information available as at 21 June 2021, unless otherwise specified.

## **DISCLAIMER**

AEMO has made every effort to ensure the quality of the information in this report but cannot guarantee its accuracy or completeness. Any views expressed in this report are those of AEMO unless otherwise stated, and may be based on information given to AEMO by other persons.

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# 1. Introduction

On Thursday 10 June 2021, AEMO notified the market of a threat to system security in the Victorian Declared Wholesale Gas Market (DWGM) for gas day 10 June 2021. This notice was due to a trip of Longford Gas Plant (Longford) and the potential breach of minimum operating pressure at Sale City Gate (CG), in the Gippsland Withdrawal Zone.

AEMO adjusted the set point on Dandenong City Gate (DCG) resulting in a reduction of gas flows along the Longford to Melbourne Pipeline (LMP) to maintain pressure at Sale CG. This reduction on the LMP resulted in the Melbourne Withdrawal Zone being impacted as well as the Gippsland Withdrawal Zone.

A market response was called for to alleviate the threat to system security by requesting Market Participants (MPs) to re-evaluate their market bids and offers. This call for a market response is further assessed in section 3.1.2. AEMO indicated that sufficient supply could be achieved by MPs increasing injections from the Dandenong Liquefied Natural Gas (LNG) Facility to obtain a total net daily injection of between 10 terajoules (TJ) and 30 TJ.

If pressures within the DWGM were forecast to fall below minimum operating limits, AEMO would schedule out-of-merit-order injections to maintain system security. During this event no out-of-merit-order LNG injections were required, as Longford ramped up production and actual demand turned out to be less than what was originally forecast. As a result of this lower actual demand, there was no requirement for LNG injections and there was no impact on the market.

Rule 351 of the National Gas Rules (NGR) requires that AEMO investigate and prepare a report following an event which is or may be a threat to system security. Rule 351 also requires that AEMO assess and advise on:

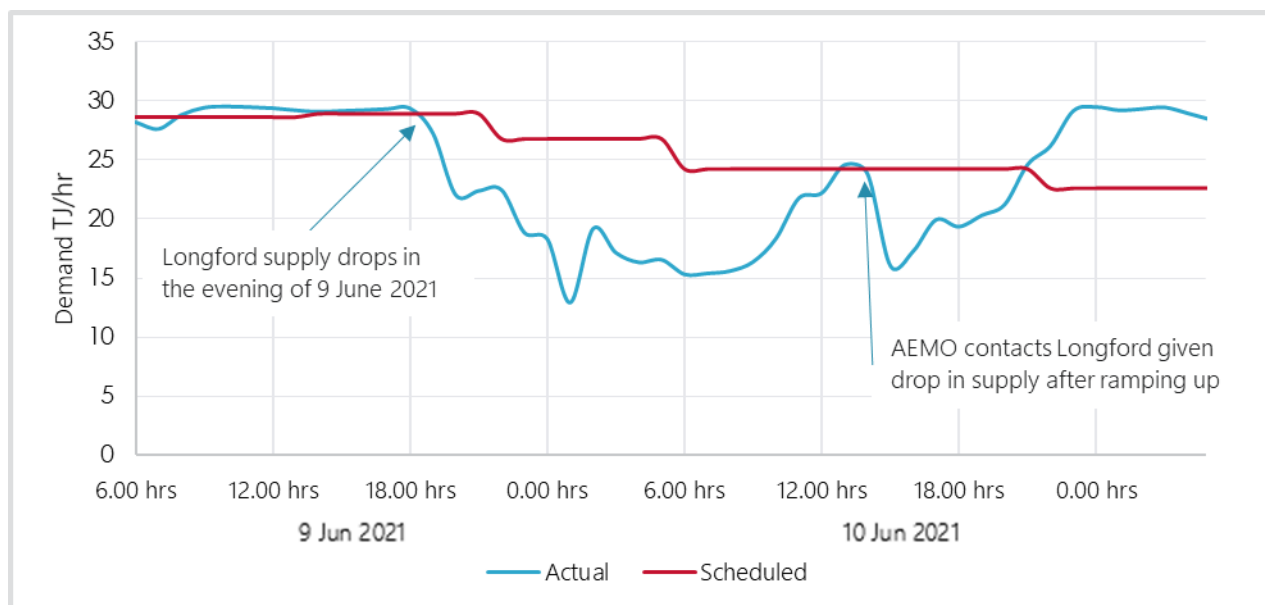
- The adequacy of the provisions of the NGR relevant to the event or events.
- The appropriateness of actions taken by AEMO in relation to the event or events.
- The costs incurred by AEMO and Registered Participants as a consequence of responding to the event or events.

This report is published in accordance with rule 351(2) of the NGR. All times used in this report are Australian Eastern Standard Time (AEST), and a chronology of events is included in Appendix A1.

## 2. Event summary

On gas day 9 June 2021, Longford had a partial outage in the evening due to a power outage because of a weather event. At 03.55 hrs on 10 June 2021, AEMO applied a constraint of 581 TJ/day for gas day 10 June 2021 for Longford, at Esso Australia's request, and issued a System Wide Notice (SWN) to the market. Longford continued to experience issues to reach the scheduled injection quantity, and ramp rate, with AEMO noting at 09.22 hrs on 10 June that Longford was 20 TJ behind schedule. Longford scheduled quantities and actual flows can be seen in Figure 1.

**Figure 1 Longford scheduled and actual gas flow 10 June 2021**



The lower Longford deliveries led to a forecast breach of minimum operating pressure at Sale CG which resulted in AEMO notifying the market of a threat to system security. At 16.25 hrs on 10 June 2021, AEMO called for a market response, indicating that LNG may alleviate the threat. Operationally, the LNG would have been required as:

- DCG outlet setpoint was reduced to minimise the flow into Melbourne from the Longford to Melbourne Pipeline. This action preserved linepack in the Longford to Melbourne Pipeline to support pressure at Sale CG.
- Increased injection from VicHub and TasHub was limited.
- The forecast injection of between 10 TJ and 30 TJ of LNG would result in an approximate increase of 125-375 kilopascals (kPa) of pressure at Sale CG over the 6.00 pm scheduling interval.

## 2.1 Actual system demand

The demand forecast for AEMO and MPs can be seen in Figure 2 for gas day 10 June 2021.

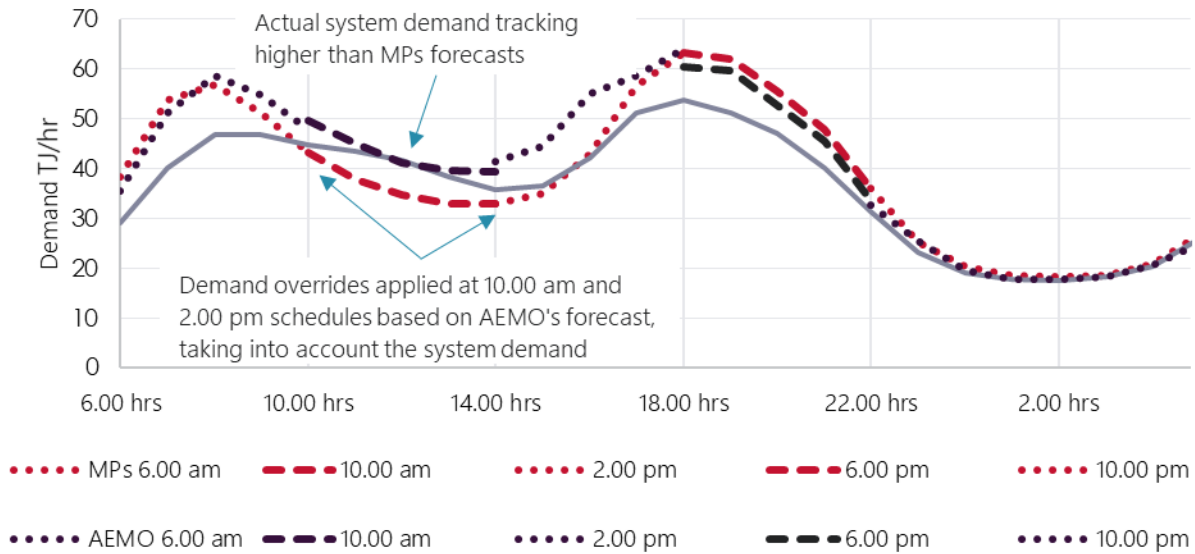
MPs had forecast, in aggregate, a daily system demand of 945 TJ at the 6.00 am schedule. Only minor updates to these aggregate forecasts were made at subsequent scheduling intervals. AEMO’s 6.00 am daily forecast was 968 TJ and actual demand for 10 June 2021 was 864 TJ. Forecasts for gas-fired power generation (GPG) did not change materially across the day and only accounted for 8 TJ of the daily demand.

AEMO’s forecasts were updated at each scheduling interval based on current-day observed changes and AEMO’s demand forecasting profiles. A demand forecast override of 20 TJ was applied at the 10.00 am schedule and a further 24 TJ was applied at the 2.00 pm schedule, in line with the Demand Override Methodology<sup>1</sup>.

The actual demand (864 TJ) was lower than MP final daily forecast of 931 TJ, and out-of-merit-order LNG injection was not required. Figure 2 compares hourly forecasts, updated at each scheduling interval with actual demand, showing that MPs under-forecast the 10.00 am scheduling interval and both AEMO and MPs over-forecast the 6.00 am and 6.00 pm scheduling intervals.

<sup>1</sup> Available at <https://aemo.com.au/-/media/files/gas/dwgm/2009-15/demand-override-methodology.pdf>.

**Figure 2 Comparison of forecast system demand and actual system demand by schedule**



The total demand on the day was lower than forecast, driven by lower than expected morning and evening demand. This demand uncertainty, combined with the uncertainty of the return to service of Longford, resulted in the potential for a threat to system security later in the day. Once the threat to system security was notified to the market at 16.25 hrs, the demand then clearly tracked lower than expected. This eased the threat, and it was ended at 21.10 hrs on 10 June 2021, without any intervention.

## 3. Assessment of event

This event was due to a trip of Longford, resulting in a lower injection rate from 20.16 hrs on 9 June 2021. AEMO applied a constraint at Longford at 03.55 hrs on 10 June, however no requirement to run an ad hoc schedule was required. There were ongoing issues with Longford ramping up to full injection rate, and the duration of the outage was still unknown at 06.00 hrs on 10 June. At 16.25 hrs, with the Longford plant still at reduced rates, modelling showed a supply and demand imbalance due to potential breach of minimum operating pressure at Sale CG. In accordance with NGR 342, AEMO called for a market response to alleviate a threat to system security, noting that MPs had a limited window of around 30 minutes to respond to the market notice.

### 3.1 Adequacy of Part 19 of the NGR

In respect to this event, AEMO has assessed the application and adequacy of the NGR, with a primary focus on the following provisions:

- NGR 341 Notice of threat to system security.
- NGR 342 Market response to threat to system security.
- NGR 351 Intervention Reports.

#### 3.1.1 Notice of threat to system security

Rule 333(2) requires a registered participant to notify AEMO if they become aware of any event or situation which, in the reasonable opinion of the participant, may threaten reliability, system security or public safety as

set out in 333(1)(a). In this event, AEMO was notified by Longford at 20.16 hrs on 9 June 2021 that there had been an outage at the plant.

Rule 341 requires that if AEMO believes there is a potential threat to system security, it must notify registered participants, without delay, the details of that threat to system security. In this case, AEMO believed that a threat was indicated by the uncertainty of Longford's return to service, combined with the potential for high demand.

At 16.25 hrs on 10 June 2021, AEMO notified the market of the threat to system security, calling for a market response. Given the uncertainties around the Longford Gas Plant and its likelihood of returning to service, the notice for a threat for system security could possibly have been issued to the market earlier to give participants more time to provide a market response. AEMO notes there needs to be a balance between informing the market as early as possible and providing the most current information on potential impacts to the market. As such, the timing of the call for a market response in this case seems reasonable.

If AEMO reasonably considers that a threat to system security is unlikely to subside without intervention (rule 343), AEMO must intervene in the market by taking any measures it believes are reasonable and necessary to overcome the threat to system security. In this event, the issue of a potential pressure breach at Sale CG subsided without intervention by AEMO due to lower than expected demand into the afternoon and evening.

### 3.1.2 Market response

When AEMO reasonably considers that a threat to system security will subside without intervention as per rule 342, calling for a market response from MPs is a process to inform Registered participants of the threat and to allow them to respond. On 10 June, AEMO called for a market response when the notice of threat to system security was issued.

The request in the market response was for MPs to re-evaluate their bids and offers, and that the market may alleviate the threat by increasing injections from the Dandenong LNG facility. This request for a market response could have been made more explicit to state that if there were enough offers at Dandenong LNG, below market price, that there will not be a need to intervene and that AEMO is requesting MPs to review their offers to alleviate the threat. AEMO would need to review whether such a change would be practical to implement.

The Wholesale Market System Security Procedures currently consider that the injection of out-of-merit-order gas is an intervention<sup>2</sup>. Therefore a market response from MPs can be the lowering of bid prices that result in gas being scheduled resulting in AEMO not needing to intervene and schedule out-of-merit-order gas.

AEMO notes that there was sufficient gas bid into the market on this occasion, and if the procedures allowed it the gas could be scheduled by constraining this gas into the market without the need to issue a notice of a threat, or calling for a market response. AEMO's review of the NGR is that this could be achieved without any Rule changes, but with minor changes to the following AEMO Market Procedures:

- Wholesale Market System Security Procedures (Victoria)
- Wholesale Market Gas Scheduling Procedures (Victoria)

AEMO finds that the NGR provisions are adequate, however, AEMO considers that further review and consultation should be undertaken with regards to:

- Whether AEMO must issue a threat to system security to call for a market response where that gas is already bid into the market
- The need to issue a threat to system security to constrain on gas that has already been bid into the market

In this event AEMO noted some minor changes to bids from MPs which could have been a response, however the lower afternoon and evening demand meant the threat passed without the need for intervention.

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<sup>2</sup> The Procedures specify that injecting out-of-merit-order gas is as per rule 343(1), which is an intervention.

### 3.1.3 Intervention Report timing

NGR 351 places an obligation on AEMO to publish a report within 10 business days after a threat to system security event. AEMO has adopted the following approach to reporting on these events, wherever possible:

- Investigate and publish a report based on immediately available data within 10 business days of the relevant event.
- Where not all information necessary to complete the required assessment is available, that report will be flagged as preliminary, with a final report to be published once the additional information is received and analysed.

For this event, AEMO believes it has all necessary information and does not intend to publish a subsequent report.

## 3.2 Appropriateness of actions taken by AEMO

AEMO's objectives during this event were to:

- Operate in accordance with the NGR and the Wholesale Market Procedures.
- Limit the risk of involuntary curtailment to customers including any GPG.
- Alleviate the threat to system security and return the DWGM to normal operating conditions.

NGR 206 requires that AEMO schedule injections into and withdrawals from the DTS in accordance with bids and must:

- Comply with the gas scheduling procedures; and
- Use its reasonable endeavours to operate within the system security procedures.

AEMO's modelling indicated a potential breach of pressures at Sale CG could occur during the 6.00 pm scheduling interval due to Longford's partial outage throughout the day. In this event, AEMO took all reasonable steps to assess the forecasts and notified the market to alleviate this threat calling for a market response. It is important to note the limited timeframes in which the market could respond. It is possible that AEMO could have notified the market earlier in the day, calling for a market response, given the reduced injection rates from Longford and the uncertainty of when Longford would be able to ramp up.

There were clearly differences in actual demand and forecast demand, by both MPs and AEMO. The lower than expected demand was a key reason for the threat subsiding without requiring MP bidding changes or intervention by AEMO.

## 3.3 Costs of intervention

AEMO did not require any out-of-merit-order LNG injections to be scheduled in response to the notice of a threat to system security issued for gas day 10 June 2021. As a result, there was no market impact.

# 4. Conclusion

AEMO issued a notice of threat to system security in the Victorian DWGM for gas day 10 June 2021 with regards to a potential pressure breach at Sale City Gate. The threat subsided without intervention due to the actual demand being lower than the forecast demand, and with Longford ramping up production.



Rule 351 of the NGR requires that AEMO investigate and prepare a report following an event which is or may be a threat to system security. AEMO has assessed the application and adequacy of associated NGR provisions and finds that these provisions were applied correctly.

Please direct any feedback or questions regarding this report to [GasMarket.Monitoring@aemo.com.au](mailto:GasMarket.Monitoring@aemo.com.au).

# A1. Chronology

| Date/Time (AEST)          | Event/Action                    | Details  |
|---------------------------|---------------------------------|--|
| 9 June 2021<br>20.30 hrs  | Esso contacts AEMO              | Esso informed AEMO that Longford had tripped due to a power outage caused by a weather event. Esso advised that the daily rate would remain unchanged despite indicating the injection rate will be lower for the gas day, and no constraint is required.  |
| 9 June 2021<br>21.43 hrs  | Esso contacts AEMO              | Esso advised AEMO that the daily rate for Longford is to be constrained down by 50 TJ as an estimate.  |
| 9 June 2021<br>21.51 hrs  | 10.00 pm schedule approved      | AEMO approved the schedule with 50 TJ reduction from Longford (642 TJ/day was scheduled at 10.00 pm down from 693 TJ/day at 6.00 pm).  |
| 9 June 2021<br>23.32 hrs  | Esso contacts AEMO              | Esso advised AEMO that the daily rate for Longford should be further constrained down to 586 TJ. No ad hoc schedule was required based on AEMO's modelling.  |
| 10 June 2021<br>03.55 hrs | Market notice                   | AEMO applied a daily constraint of 582 TJ for Longford for gas day 10 June and notified the market accordingly.  |
| 10 June 2021<br>05.05 hrs | 6.00 am schedule approved       | AEMO approved the schedule with a constraint of 582 TJ/day from Longford.  |
| 10 June 2021<br>06.00 hrs | AEMO assessment                 | Longford's final injection quantity for gas day 9 June was 592 TJ (consistent with the information provided at 03.55 hrs). There was no impact on the beginning-of-gas-day linepack as the under-delivery from Longford was offset by lower than expected overnight demand. There were ongoing uncertainties around the facility's ramp up capability to the 10 June daily nomination of 582 TJ. |
| 10 June 2021<br>07.20 hrs | AEMO contacts Esso              | AEMO contacted Esso on Longford's injection rates and was advised the facility should be able to ramp up to the nominated rate in one hour's time.   |
| 10 June 2021<br>09.22 hrs | 10.00 am schedule approved      | AEMO approved the schedule with a Qdiff <sup>3</sup> override in recognition that Longford was 20 TJ behind the schedule.  |
| 10 June 2021<br>13.29 hrs | 2.00 pm schedule approved       | AEMO approved the schedule with a Qdiff override of 20 TJ, noting that Longford was 43 TJ behind schedule at this point. AEMO also applied a demand forecast override of 20 TJ.  |
| 10 June 2021<br>14.50 hrs | AEMO contacts Esso              | AEMO contacted Esso with regards to a decrease in injection rate and was advised that Esso is working on the issue with no firm timeline given. There were no revisions from Esso on the current daily constraint of 582 TJ.   |
| 10 June 2021<br>16.25 hrs | AEMO forecast and Market notice | AEMO determined 10-30 TJ of LNG may be required from 18.00 hrs to 22.00 hrs to avert a potential pressure breach at Sale CG and issued a market notice of the threat to system security, calling for a market response.  |
| 10 June 2021<br>17.33 hrs | 6.00 pm schedule approved       | AEMO approved the schedule with no LNG scheduled. No further Qdiff or demand overrides were applied given the current system conditions.   |

<sup>3</sup> AEMO may make an intra-day adjustment (called Qdiff) when producing operating schedules and pricing schedules. This is to recognise that the Facility Operator injecting or withdrawing gas at a system point is expected to make up any difference (of scheduled versus actual) at the time of reschedule and that there is no need to schedule additional (or less) gas as a result of the deviation from the operating schedule.

|                           |               |   |
|---------------------------|---------------|---|
| 10 June 2021<br>20.56 hrs | Market notice | Esso advised that the daily constraint for Longford was revised down to 542 TJ, and a market notice was sent accordingly. This lower amount from Longford was offset by a corresponding reduction in demand forecast. |
| 10 June 2021<br>21.11 hrs | Market notice | AEMO notified the market that the threat to system security had ended.  |